Department of Transportation
PIJ # DT25011 - Automated Traffic Management System (ATMS)
Oversight Name: Les
DT25011

OA Peer Review Date: 3/21/25	OA Recommendation Date: 3/24/25	EM Review Date: 3/24/24
Approve with Standard Con… ▾	Approve with Standard Conditions ▾	Approve with Standar… ▾

Oversight Director Decision Date: 3/27/25	OR Deputy CIO Decision Date:
ITAC Recommendation ▾	No Response ▾

Submission Date: 2/18/25	Project Budget:	
	Development Cost	$ 1,983,540.00
Project Duration: 1 years	Operational Cost	$ 435,000.00
Start Date: 4/21/2025	**Total Cost**	**$ 2,418,540.00**
End Date: 4/30/2026		

Brief Project Description:
- Integrate ADOT's pump station status into their Advanced Traffic Management System (ATMS) to improve real-time situational awareness and response times during major weather events.

Current Solution Issues:
- What is the operational issue or business need that the Agency is trying to solve?

    Need for Centralized Control:
    - ADOT requires a unified system for real-time monitoring and control of all traffic infrastructure (signals, cameras, ramp meters, DMS, pump houses, etc.).
    - This would streamline operations and improve overall freeway management. Maxview's pre-set signal timings and lack of real-time data and alerts hinder troubleshooting and timely responses to malfunctions.
    - The system's inability to dynamically respond to traffic conditions and integrate with detector stations/ramp meters can lead to congestion.
    - Fragmented camera management and lack of interoperability with other systems create inefficiencies.
- What hardware/software is currently being utilized by the agency?
    - ADOT's current traffic management software, Maxview, has limited capabilities. It primarily controls and monitors traffic signals, but lacks real-time insights and the ability to interact with other systems.
- Describe and quantify the shortcomings of the current set-up/system (time, man-hours, financial, overall efficiency).
    - The current system's shortcomings include a lack of centralized management, limited real-time visibility, inflexible alert options, and a lack of comprehensive integration. These limitations lead to inefficiencies, increased travel times, and high maintenance costs.

Proposed Solution/Business Justification:

- Describe the proposed solution to this business needs.
  - In essence, the proposal is to create a centralized platform for managing all aspects of an Intelligent Transportation System (ITS). This platform would provide:
    - **Unified Control:** A single interface to manage diverse devices like cameras, signals, and message boards.
    - **Real-Time Monitoring:** Instant access to system performance for quick issue resolution.
    - **Automated Alerts:** Customizable notifications for timely responses to problems.
- How will the proposed solution improve operations? Use quantifiable metrics, if possible.
  - **Centralizing management:** Providing a single interface for all ITS devices.
  - **Increasing real-time visibility:** Enabling proactive maintenance and faster incident response.
  - **Automating alerts:** Ensuring prompt notification of critical events.
  - **Enabling quantifiable improvements:** Potentially reducing incident response times, improving traffic flow, increasing system uptime, and enhancing safety.
- How does implementing this solution benefit the State?
  - Implementing the centralized ITS platform would significantly benefit the State by:
    - **Boosting safety and commuter satisfaction** through improved traffic flow and rapid incident response.
    - **Saving resources and increasing efficiency** via remote management and streamlined operations.
    - **Enhancing collaboration** between different agencies and municipalities.
    - **Enabling data-driven decisions** for better incident management and long-term planning.
    - **Allowing for proactive traffic management** through real-time monitoring and control.

Performance Indicators: (Expected Improvement/ROI/KPIs and Baseline must be included in each) What metrics will improve by adopting the new solution and by how much?

1. **Reduced Site Visits:** The solution can reduce the need for on-site maintenance visits by enabling remote diagnostics and troubleshooting. This is projected to lead to a 25% reduction in site visits annually, from 360 to 270, within one year of implementation.
2. **Improved Traffic Flow:** By enabling remote management of traffic signal timings, the solution can optimize traffic flow during both normal and abnormal conditions, leading to a projected 5-10% reduction in travel time for commuters within one year of implementation.

Vendor Selection (3 Quote):

- **Considered Vendors:** Kimley-Horn, Parsons, and Q-Free
- **Selected Vendors:** Kimley-Horn
- **3 Quotes Obtained:** Yes
- **Exception Reason:** No

Implementation Plan:

- Solution is AZRAMP authorized. SSP required.
- Project Manager: Dayana Carranza Garcia, dcarranzagarcia.consultant@azdot.gov
- Responsible Owner for KPI: Adam McGuire amcguire@azdot.gov
- Agency Responsibilities:

- - - ○ Responsible for procurement, and coordination of the project
  - ● Sponsor Responsibilities:
    - ○ Responsible for the budget, approval of the project deliverables and issue resolution
  - ● Vendor Responsibilities:
    - ○ Responsible for onboarding/implementation, configuration and training
  - ● Multiple system interfaces: Yes,
    - ○ The 101 Integrated Corridor Management (ICM) system is utilized by other entities within the Phoenix area (Such as Glendale, Peoria, and Tempe), which is their crucial system for managing traffic, especially across multiple cities. Maxview does not connect to this system, which is problematic when collaboration between various teams and municipalities is necessary.

Risks:

- ● Federal funding
- ● Multiple system interfaces

Project Background:

- ● What is the role of the agency? What does the agency do?
  - ○ The Arizona Department of Transportation (ADOT) has jurisdiction over state roads, state airports, and the registration of motor vehicles and aircraft.ADOT oversees state roads, airports, and vehicle/aircraft registration.
  - ○ Creating a transportation system for Arizona that improves the quality of life. To provide a safe, efficient, cost-effective transportation system.Arizona's transportation system: safe, efficient, cost-effective, and improves quality of life.
  - ○ The Arizona Department of Transportation (ADOT) oversees the state's transportation system, including highways, bridges, and airports. ADOT also manages transportation revenue, driver's licenses, and vehicle registrations.
- ● What is the role of a specific unit within the agency (if applicable)?
  - ○ ADOT's TSMO Division enhances safety and mobility through traffic management, traveler information, and safety applications.
- ● What problem is the agency resolving with this PIJ?
  - ○ The current system lacks real-time visibility, flexible alerts, and device integration. The proposed solution offers a centralized platform to manage and monitor ITS devices, with real-time visibility, flexible alerts, and comprehensive integration.

Budget or Funding Considerations:

The budget will be available through the following sources:	Funding expiration(s): Yes
% Base Budget	Start Date: End Date:
100% Federal	Start Date: 10/1/2024 End Date: 9/30/2026
% Other Appropriated	Start Date: End Date:

% Other Non-Appropriated	Start Date: End Date:	

PIJ Checklist:

Requirement	Received?	Notes
SOW	Received ▾	
Project Plan	Received ▾	
5-Year Equipment Refresh Plan for Equipment Purchases	Not Needed ▾	
Maintenance & Support Options Identified for Years 2-5	Received ▾	
Cloud Exception Form for On-Prem Servers	Not Needed ▾	
Vendor activity or documentation (training, functionality change, etc.) to be Shared with Agency	Received ▾	
Internal Approvals from the Director, CTO, CIO, CFO/Budget Manager via email	Received ▾	
Project is Included in the IT Strategic Plan and Aligns with the Budget	Received ▾	

The PIJ addresses the following items:

No ▾ Cost Savings
Yes ▾ Whether the proposed solution addresses the stated problem or situation
Yes ▾ Whether the budget unit is competent to carry out the project successfully
Yes ▾ Whether sufficient sponsorship and support by budget unit leadership exists
Yes ▾ Whether cost estimates provided are accurate
Yes ▾ Whether the proposed project aligns with the budget unit's Strategic IT Plan
Yes ▾ Whether the proposed solution complies with statewide IT standards

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PIJ Modifications + Follow-Up

V 1.0 4/3/24

OA Post-Approval Checklist:

☐ Copy the information from this document into the Oversight Summary section in Salesforce (Project Background, Business Justification, Implementation Plan, Vendor Selection, and Budget or Funding Considerations).
☐ Ensure that within the Submission Info section of the PIJ in Salesforce, the IT Goal, Brief Description, Status Report Frequency, and Requested Development Amount fields have been populated.
☐ Add the appropriate **conditions** within the Conditional Approval Section.
☐ Complete any follow-up/edits to the PIJ that were noted in the executive review.
☐ After the PIJ is complete, pdf this document and attach to the PIJ.
☐ Click Generate PIJ Document, copy as a pdf, and attach to the approval email.
☐ Log the approval email to the PIJ in Salesforce using the Gmail Extension.
☐ Go to the newly-created project and populate the PM Assigned field and any risks identified.

Guides

Milestones:
Common milestones include, but not limited to:

- Project Kickoff
- Delivery of Signed SOW
- Delivery of Project Plan Document
  - Sometimes an Agency can only produce this after an assessment from the vendor. Ensure this is added as a milestone after the assessment takes place, and ensure the assessment is added as a milestone as well.
- Installation

- Configuration
- Sprints (design & build, with descriptions)
- UAT
- Training (support team/admin)
- Training (end users)
- Go Live
- Payment Invoices (by milestone or date(s))
- Final Payment of Invoices
- Lessons Learned
- Project Close

Common things to look out for:

- If milestones span a long interval of time, for example, several months or longer, there are events that take place within this milestone that can be broken into several milestones that can be more easily monitored.

Financials
- All financials during the first fiscal year are considered Development. Every year after is Operational. However this may be different for projects that span over 1 year.
- Professional services cannot be taxed.
- Ensure the quote from the vendor matches the financials' line items.
- Keep note of the funding expiration dates, when payments will be made (identified within milestones), and whether the Agency has the budget for the project. For example, some Agencies receive new funding every October. Ensure their payment dates are aligned with their ability to pay using the funding they anticipate to receive. Some projects will have multiple funding sources expiring at different times.
- Ensure the categorization of the line items makes sense and they are separated by 1 item per line. For example, licenses and professional services should not be combined; they should be separated into each line item with the applicable categorization and tax information.
- If static maintenance and support costs for years 2-5 are not guaranteed by the vendor, include a 2.5% increase year over year in order to account for any future price increases.

Risks
- Common risks include:
  - Aggressive timelines
  - Two or more agencies involved with the project
  - Two or more vendors involved with the project
  - Paying the vendor at one time, all upfront, prior to any work being performed
  - Any other items included in the conditional approval that are required within future status report submissions